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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,920	12/04/2003	William L. Brennenman	102426-200	6952
27267	7590	02/08/2005	EXAMINER	
WIGGIN AND DANA LLP ATTENTION: PATENT DOCKETING ONE CENTURY TOWER, P.O. BOX 1832 NEW HAVEN, CT 06508-1832			LAM, CATHY FONG FONG	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,920	BRENNEMAN ET AL.	
	Examiner	Art Unit	
	Cathy Lam	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 13-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05-24-2004</u> . | 6) <input type="checkbox"/> Other: ____. |

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-12, drawn to a copper foil laminate, classified in class 428, subclass 604.
 - II. Claims 13-17 & 21-28, drawn to a method for increasing the peel strength of a copper foil laminate, classified in class 205, subclass 333.
 - III. Claims 18-20, drawn to a treated copper foil, classified in class 428, subclass 621.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the method as claimed can be used to make a different product such as a mirror or a reflective surface. The product as claimed can be made by a different process such as by vapor deposition.
3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions in group III, a metal compound layer is specifically involved with chromium and zinc ions or their oxides, whereas in group I, chromium is optional and zinc is not required.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Atty: Gregory Rosenblatt on December 14, 2004 a provisional election was made with traverse to prosecute the invention of group I, claims 1-5 & 6-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Initially, the examiner suggested a four way restriction with group I consists of claims 1-5, group II consists of claims 6-12, group III consists of 13-17 & 21-28, and group IV consists of claims 18-20. Upon further consideration, the examiner is combining group I & group II, because claims 1-5 & claims 6-12 appear to have the same scope of invention. Therefore, claims 1-12 will be examined together as one group.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wang et al (US 6447929).

Wang discloses a copper foil laminate (L) which is to be bonded to a dielectric layer (102) (Figs. 6 & 7).

The copper foil laminate (L) is comprised of a copper foil (12) and a release layer (49) formed onto the shiny side of the copper foil (12) (col 5 L 10-12).

The release layer (49) is comprised of a metal containing material which includes metal, metal alloy and a metal oxide. The material for the release layer can be tungsten, tungsten oxide, tantalum, tantalum oxide, vanadium, vanadium oxide, molybdenum, molybdenum oxide, chromium, chromium oxide, etc. (col 4 L 47-55).

8. Claims 1-5, 6-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Chen et al (US 6346335).

Chen discloses a composite material comprised of a support layer (12), a release layer (16) and a thin metal foil (14). The release layer (16) is placed between the carrier layer (1) and the thin metal foil (14) (Fig. 1).

The release layer (16) is an admixture of metal and a metal oxide (col 4 L 15-19 & L 27). The thin metal foil (14) is preferably copper (col 4 L 8-9). The release layer has a thickness of about 0.001-0.03 μm (or 10-300 Å) (col 4 L 31-34).

The metal and metal oxide are preferably mixtures of chromium and chromium oxide (col 4 L 29-30).

Chen also discloses that a silane based coating may be used as a bond strength enhancing agent (col 4 L 60-63).

Chen is silent about the bond strength as claimed by applicant, but since the materials used are the same as the present invention, it would be inherent that the bond strength of Chen be the same as the present invention.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US 6346335) in view of Lin et al (US 5071520).

Chen discloses a composite material comprised of a support layer (12), a release layer (16) and a thin metal foil (14). The release layer (16) is placed between the carrier layer (1) and the thin metal foil (14) (Fig. 1).

The release layer (16) is an admixture of metal and a metal oxide (col 4 L 15-19 & L 27). The thin metal foil (14) is preferably copper (col 4 L 8-9). The release layer has a thickness of about 0.001-0.03 μm (or 10-300 Å) (col 4 L 31-34).

The metal and metal oxide are preferably mixtures of chromium and chromium oxide (col 4 L 29-30).

The release layer is formed onto a smooth side of the copper metal foil (14) and a silane may be formed onto the side opposite to the release layer (col 4 L 47-49 & L 60-63).

Chen does not teach the silane coating is on the same side of the release layer.

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Lin discloses a method of treating a copper foil to improve peel strength. The copper foil is to be bonded to a dielectric layer (col 1 L 23-25).

A copper foil is first coated with a chromate as an anti-tarnish treatment (col 3 L 62-65). Then further treated with a silane coupling agent (col 4 L 47-49). The treated copper foil is then bonded to a dielectric support layer (col 1 L 23-25).

The prior art are silent about the percent loss of peel strength. However, in view of the prior art teachings, one skill in the art would use the same materials and ingredients to fabricate a desired laminate having a desired bond strength because it involves only routine skill in the art.

Double Patenting

11. Claims 1-4 and 6-11 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6346335. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are materially and structurally the same.

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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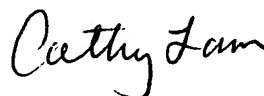
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538.

The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cathy Lam
Primary Examiner
Art Unit 1775

cfl
December 30, 2004